Public Works Academy of Seminole County
ENVIRONMENTAL COURSE MODULES (B)

➢ Stormwater (4 hours) /

Performance Objectives:

- Understand the fundamentals of urban surface water management in Central Florida (watershed, flood plain management & FEMA mapping).
- Understand what hydrologic cycle is and what impact it has on rural and urban development.
- Understand the hydrologic analysis (runoff numbers, rational method for runoff, SCS & TR55 and storm event).
- Understand the state/water management district/county/city oversight and the rules that apply.
- Understand the types of system designs to include primary, secondary and tertiary, retention and detention ponds and the maintenance of those systems.
- Understand erosion/sedimentation control.

➢ Solid Waste/Recycling (4 hours) /

Performance Objectives:

- Definitions
- Solid waste production (commercial and residential)
- Solid waste collection
- Solid waste transfer
- Solid waste disposal
- Methane collection and disposal
- Leachate collection and disposal
- Recycling procedures
- Other diversified solid waste disposal procedures

➢ Water Supply and Distribution (4 hours) /

Performance Objectives:

- Definitions
- Potable water treatment
- Potable water distribution
- Alternative storage of treated water
- New rules and regulations
- Distribution system repairs

➢ Waste Water and Re-Use (4 hours) /

Performance Objectives:

- Understand the definitions associated with WW/Re-Use.
- Identify the sewage collection infrastructure.
- Identify the sewage transmission infrastructure.
- Identify the WWTP components and operation.
- Understand re-use production.
- Understand re-use distribution.

➢ Confined Space/Trenching (4 hours) / PDV 0110

Course Description: This course is designed to introduce the basic concepts and applicable OSHA standards associated with confined spaces and trenching (excavation). The focus will be shifted towards typical Public Works activities including sewer system entry. The responsibilities and roles of the personnel involved in typical confined space entry procedures will be stressed.

Performance Objectives:

- Understand the definitions associated with confined space.
- Identify the OSHA rules associated with confined space.
- Identify equipment used in confined space situations.

- Understand the safety aspects of working in a confined space.
- Understand the definitions associated with trenching.
- Identify the OSHA rules associated with trenching.
- Identify the equipment and materials used in trenching.
- Understand sheet piling.
- Understand the safety aspects of trenching.

Outline:

I. Introduction to OSHA Standard 29 CFR 1910.146 Permit Required Confined Spaces identifying:
   1. OSHA responsibilities and applicability
   2. Sections of the rule.

II. Presentation of OSHA standard focusing on:
   1. Pertinent definitions
   2. Alternate entry procedures
   3. Duties of authorized entrants
   4. Duties of attendants
   5. Duties of entry supervisors
   6. Procedures for atmospheric testing
   7. Atmospheric contaminants and PEL's
   8. Provisions for sewer system entry

III. Live demonstration of procedures and safety equipment used for typical sewer system entry.

IV. Identification of Trenching Safety course objectives and introduction to OSHA standard 29 CFR 1926.650, .651, and .652 *Excavations.* Focusing on:
   1. Pertinent definitions
   2. Overview of soil mechanics
   3. Determination of soil types
   4. Shoring and shielding types
   5. Sloping and benching
   6. Duties of the competent person
   7. Special health and safety considerations

➢ The FL Stormwater, Erosion & Sedimentation Control Inspector's Certification Program (12 hours) / PDV 0111

Course Description: This course will give participants the opportunity to obtain a basic foundation of knowledge regarding processes and principles of erosion and sedimentation.

Performance Objectives:

- Understand the various types of soil.
- Understand the NPDES information (types of projects which require a permit, the information required in conjunction with a permit, Stormwater Pollution Prevention Plan, documentation, etc.).
- Know the definitions and purposes of stormwater management systems.
- Understand the proper use of specific BMP's (Best Management Practices) for effective erosion and sediment control during construction.
- Understand the specific BMP's for constructing permanent Stormwater Management Systems.
- Understand the proper uses of vegetation for erosion control.
- Identify the elements, preparation and evaluation of and implementation of an erosion and sediment control plan.
- Understand the essential duties and responsibilities of an erosion and sediment control inspector.

Outline:

I. Introduction to soils and the processes of erosion and sedimentation
II. NPDES information
III. BMPs for temporary erosion and sediment control during construction
IV. Permanent stormwater management practices
V. Using vegetation for erosion control
VI. Preparing and implementing an erosion control plan, as well as inspection and enforcement components.

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ENVIRONMENTAL COURSE MODULES (B)

➢ Arboricultural Training (8 hours) / PDV 0112

Course Description: This course will provide the basic information and techniques for maintaining and pruning plants and trees. Tools of the "trade", safety aspects and proper pruning and growth controls are also discussed. This course has a "hands-on" portion where demonstrations will presented.

Performance Objectives:

- Pruning specifications and tree evaluations
- Preventative tree maintenance to reduce hazards
- Arborist equipment and safe tool uses in the field (including PPE)
- Natural target pruning—What is it? Why is it recommended?
- Tree pruning basics-pruning for clearance on sidewalks and roads

Outline:

I. Introduction-What are you here to Learn
II. Why and How to maintain trees
  A. Pruning
  B. ANSI A-300 Standards for Maintenance of Trees and Woody Plants
III. Are you an Arborist? The science of arboriculture
IV. Tools
  A. Hand
  B. Power
  C. Professional
V. Tree pruning from the ground—demo using Hand and Power Tools
  A. Work site setup
  B. Right tool for right cut
VI. Pruning Exercises Using Hand and Power Tools
  A. Clearance pruning and sidewalks and roadways
  B. Hazard reduction pruning

➢ Irrigation Systems (4 hours) /

Performance Objectives:

- Understand trenching as it applies to irrigation design and application.
- Identify the different types of pipe
- Identify types of sprinkler heads and control devises.
- Identify irrigation source water.
- Understand the application of fertilization.